9. A recombinant host cell produced by the method of claim 8.

10. The recombinant host cell of claim 9 comprising vector sequences.

11. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

a) a polypeptide fragment of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No:PTA-2680;

b) a polypeptide fragment of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No:PTA-2680, having biological activity;

c) a polypeptide domain of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No:PTA-2680;

d) a polypeptide epitope of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No:PTA-2680;

e) a full length protein of SEQ ID NO:2 or the encoded sequence included in ATCC Deposit No:PTA-2680;

f) a variant of SEQ ID NO:2;

g) an allelic variant of SEQ ID NO:2;

h) a species homologue of SEQ ID NO:2; or

i) a polypeptide corresponding to amino acids 2 to 737 of SEQ ID NO:2.

j) a polypeptide fragment of SEQ ID NO:6 or the encoded sequence included in ATCC Deposit No:PTA-2673;

k) a polypeptide fragment of SEQ ID NO:6 or the encoded sequence included in ATCC Deposit No:PTA-2673, having biological activity;

l) a polypeptide domain of SEQ ID NO:6 or the encoded sequence included in ATCC Deposit No:PTA-2673;

m) a polypeptide epitope of SEQ ID NO:6 or the encoded sequence included in ATCC Deposit No:PTA-2673;

n) a full length protein of SEQ ID NO:6 or the encoded sequence included in ATCC Deposit No:PTA-2673;

o) a variant of SEQ ID NO:6;

p) an allelic variant of SEQ ID NO:6;

q) a species homologue of SEQ ID NO:6; or

r) a polypeptide corresponding to amino acids 2 to 713 of SEQ ID NO:6.

12. The isolated polypeptide of claim 11, wherein the full length protein comprises sequential amino acid deletions from either the C-terminus or the N-terminus.

13. An isolated antibody that binds specifically to the isolated polypeptide of claim 11.

14. A recombinant host cell that expresses the isolated polypeptide of claim 11.

15. A method of making an isolated polypeptide comprising:

a) culturing the recombinant host cell of claim 14 under conditions such that said polypeptide is expressed; and

b) recovering said polypeptide.

16. The polypeptide produced by claim 15.

17. A method for preventing, treating, or ameliorating a medical condition, comprising administering to a mammalian subject a therapeutically effective amount of the polypeptide of claim 11 or the polynucleotide of claim 1.

18. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

a) determining the presence or absence of a mutation in the polynucleotide of claim 1; and

b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or absence of said mutation.

19. A method of diagnosing a pathological condition or a susceptibility to a pathological condition in a subject comprising:

a) determining the presence or amount of expression of the polypeptide of claim 11 in a biological sample; and

b) diagnosing a pathological condition or a susceptibility to a pathological condition based on the presence or amount of expression of the polypeptide.

20. A gene corresponding to the cDNA sequence of SEQ ID NO:2 or SEQ ID NO:6.

21. A method of identifying an activity in a biological assay, wherein the method comprises:

a) expressing the HGPRBMY5 sequence as set forth in SEQ ID NO:2 or SEQ ID NO:6 in a host cell having; and

b) measuring the resulting activity of the expressed HGPRBMY5.

22. A method for identifying a binding partner to the polypeptide of claim 11 comprising:

a) contacting the polypeptide of claim 11 with a binding partner; and

b) determining whether the binding partner effects an activity of the polypeptide.

23. A method of identifying a compound that modulates the biological activity of HGPRBMY5, or a GPCR, comprising:

a) combining a candidate modulator compound with a host cell containing a vector according to claim 7, wherein HGPRBMY5 is expressed by the cell; and

b) measuring an effect of the candidate modulator compound on the activity of the expressed HGPRBMY5.

24. A compound that modulates the biological activity of human HGPRBMY5 as identified by the method according to claim 21, 22, or 23.

25. The method of claim 22 wherein said binding partner is a peptide.

26. A method of treating a disease, disorder, or condition related to the colon, breast, ovaries, or immune system, comprising administering the G-protein coupled receptor polypeptide or homologue according to claim 11 in an amount effective to treat the thalamus-, amygdala-, corpus callosum-, caudate nucleus-, hippocampus-, brain-, ovarian-, or lung-related disorder.

27. The polynucleotide of claim 2, further comprising a polynucleotide localized in thalamus, amygdala, corpus callosum, caudate nucleus, hippocampus, brain, ovarian, lung, lung carcinoma, or ovarian carcinoma cell lines.

28. The polypeptide of claim 11, further comprising a polypeptide expressed in thalamus, amygdala, corpus callosum, caudate nucleus, hippocampus, brain, ovarian, lung, lung carcinoma, or ovarian carcinoma cell lines.

29. A cell comprising NFAT/CRE and the polypeptide of claim 11.

30. A cell comprising NFAT G alpha 15 and the polypeptide of claim 11.

31. A method of screening for candidate compounds capable of modulating activity of a G-protein coupled receptor-encoding polypeptide, comprising:

a) contacting a test compound with the cell of claim 29 or 30; and

b) selecting as candidate modulating compounds those test compounds that modulate activity of the G-protein coupled receptor polypeptide.

32. The method according to claim 31, wherein the candidate compounds are agonists or antagonists of G-protein coupled receptor activity.

33. The method according to claim 32, wherein the candidate compounds are peptides.

34. The method according to claim 32, wherein the polypeptide activity is associated with the thalamus, amygdala, corpus callosum, caudate nucleus, hippocampus, brain, ovarian, lung, lung cancers, or ovarian cancers.